DATUM MATTERS

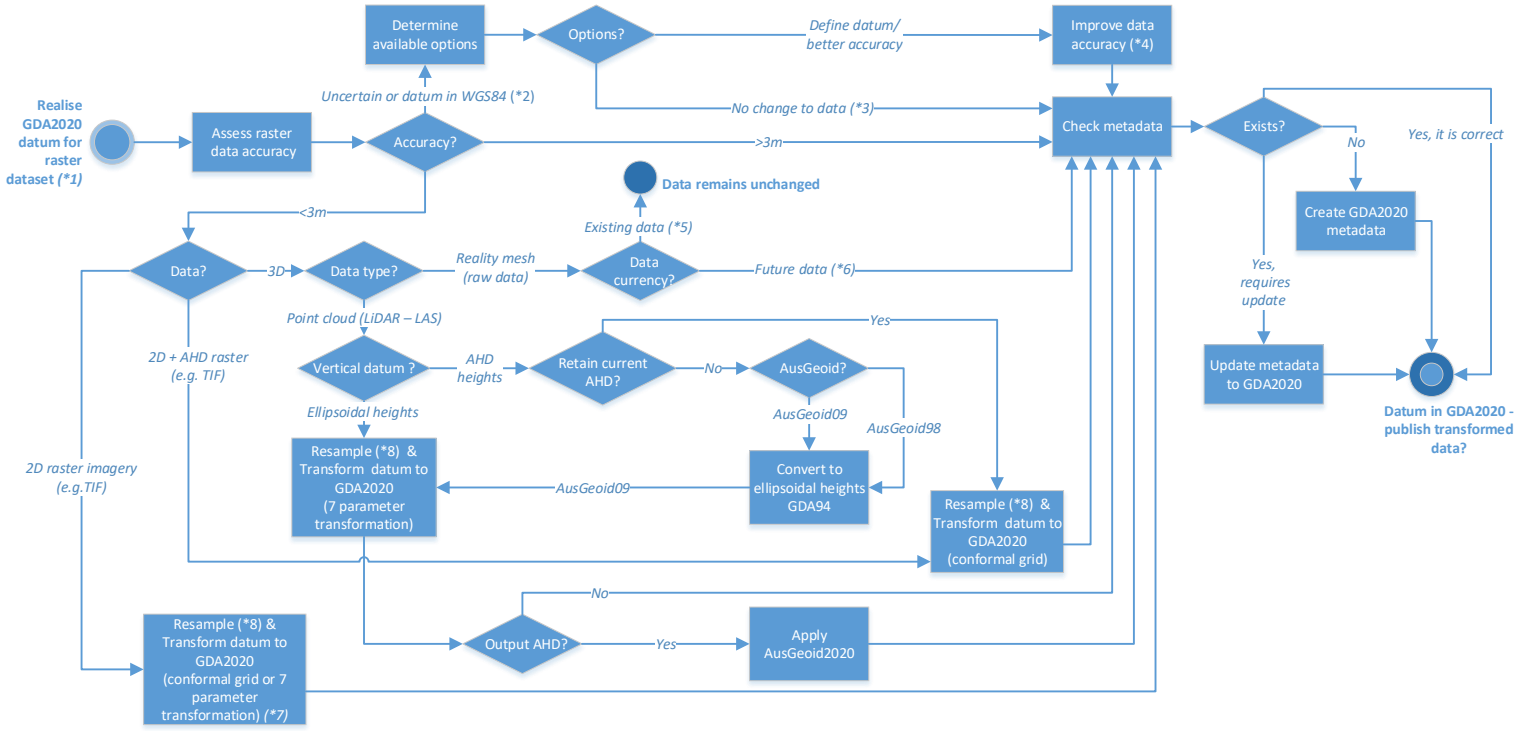
Department of Natural Resources, Mines and Energy

DATUM TRANSFORMATION

Raster Data Process

*This information may assist in transforming **raster** datasets from a current datum to GDA2020 across your organisation.*

Transformation Process



Datum Transformation Table – Raster Data

Datum transformation	Transformation File	EPSG Transformation Code	Comments
GDA94 --> GDA2020	GDA94_GDA2020_conformal.gsb	8446	Conformal grid Recommended for all datasets in Queensland
GDA94 --> GDA2020	Transformation_Conversion.xlsx	8048	7 parameter similarity transformation Used if ellipsoidal heights are to be transformed

Detailed information about datum transformation can be found in the Geocentric Datum of Australia 2020 Technical Manual. The general explanations of the concepts and terminology are available at the ICSM Fundamentals of mapping site here. The transformation files can be obtained from ICSM GitHub transformation grid repository.

Notes

*1
- Assumption – for the purpose of this diagram, data is either in GDA94, datum is unknown or already in GDA2020 (e.g. future reality mesh data).
- If wanting to undertake raster analytics, perform analysis in the original raster datum and transform the output product only.

*2 Datum not defined; no metadata.

*3 Create metadata to record that checks about datum were made but the datum is unknown/ uncertain.

*4 E.g. re-survey may be required to improve accuracy and to record datum used; the existing map products may have to be recreated in GDA2020; do not mix datum.

*5 E.g. raw data captured in WGS84 (EPSG 4326) coordinates by a supplier; datum metadata not captured.

*6 E.g. metadata supplied with raw data captured in WGS84@2020.

*7 Ignore height change if 7 parameter similarity transformation used.

*8 Transformation of imagery to GDA2020 datum requires resampling of the original data:
- A resampling technique needs to be selected; no one resampling technique suits all datasets or user requirements;
- The resampling process results in modified pixel values that are unable to be accurately reversed if transforming back to the original datum is required;
- Resampling degrades the quality of the original imagery – it is particularly visible in locations of high contrast and linear features but affects the whole image extent to some degree.

For more information on implementing GDA2020 in Queensland please contact Matt Higgins, Department of Natural Resources, Mines & Energy, qldgda2020@dnrme.qld.gov.au or 07 3330 4481.

Published: October 2019